



# GAIA

*Global Anti-Incinerator Alliance*

**GLOBAL ALLIANCE FOR INCINERATOR ALTERNATIVES**

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Michael Paparian  
Chair, Sustainability and Market Development Committee  
California Integrated Waste Management Board  
1001 I Street, P.O. Box 4025  
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Dear Committee Chair Paparian,

I am writing to comment on the draft Conversion Technologies Report to the Legislature which is item D of the January 11 Sustainability and Market Development Committee meeting. Please include these written comments in the record of this January 11, 2005 committee meeting.

GAIA considers gasification, pyrolysis, plasma arc and other high temperature technologies to be forms of municipal solid waste incineration. The comments below are limited to the discussion of these technologies in the draft report.

### **Proposals in California**

The report should inform the legislature about the current situation with gasification, pyrolysis, plasma arc, catalytic cracking, and other proposals in California. Some vendors are marketing their technologies to uninformed local governments as having no emissions, which does not hold up when scrutinized. In fact, vendors often fail to provide any data at all to the public. Once the public is informed about consideration of these technologies in their communities, the technologies are rejected.

For example, after a two-year study of municipal solid waste gasification as a local energy source, members of the city of Alameda's Public Utilities Board voted unanimously in October to reject gasification. The study, costing \$500,000, reflected the APT-hired consultants' unabashed bias towards gasification of municipal solid waste.

After Hanford residents raised concerns about a planned "catalytic cracking" pyrolysis facility for plastics, the facility's permits were suspended and then rescinded in August 2004 by the regional air pollution agency. The Kings County Planning Department and the San Joaquin Valley Air Pollution Control District initially approved this project without public hearings, an

environmental impact report or proper notice to residents. The incinerator company failed to provide emissions data to the public despite repeated requests.

In the summer of 2003 North American Power Company was about to get a permit for a commercial medical waste treatment facility in Chowchilla, California, using pyrolysis. Greenaction discovered the proposal days before the city was set to approve the permit, and convinced the city to ask for more data to back up the claims of zero emissions. Rather than provide data, the company disappeared from Chowchilla and never submitted information. While the proposed feedstock for this facility was medical waste, the claims made in Chowchilla by North American Power Company follow the trend seen so far in the state. Many of the same companies claim to be capable of processing both medical and municipal waste streams.

### **Environmental Justice**

Contrary to the description of the agenda item discussing this draft report for the January 18-19, 2005 CIWMB meeting, there are environmental justice issues surrounding the consideration of gasification, pyrolysis and catalytic cracking in California. In the above examples of Chowchilla, Hanford, and the neighborhood of San Leandro that was targeted by the city of Alameda, communities of color and low-income communities would have been disproportionately affected if these proposals had not been stopped. In addition to mentioning rejection of these incinerators by the public and local governments, the draft report to the legislature should inform the legislature about this trend in gasification, pyrolysis, and catalytic cracking proposals appearing in these communities.

### **AB 2770 Definition of Gasification**

The CIWMB has the responsibility to inform the legislature explicitly that gasification is not the “no emission” technology that the legislature was interested in pursuing, as is clear in the definition of gasification in AB 2770. In the draft report’s analysis of the AB 2770 definition of gasification, there is no discussion of the intention of this bill regarding emissions. The existing AB 2770 definition states:

*"(b) The technology produces no discharges of air contaminants or emissions, including greenhouse gases, as defined in subdivision (g) of Section 42801.1 of the Health and Safety Code.*

*(c) The technology produces no discharges to surface or ground waters of the state.*

*(d) The technology produces no hazardous waste.*

While the draft report recommends that the legislature remove this important portion of the gasification definition, there is no mention in the draft report’s discussion of the legislature’s definition that MSW gasification creates hazardous air, liquid, and solid residues. Indeed, it appears that the legislature itself may have been misled by these industries into believing that gasification is a “no emission” technology. As is abundantly clear, gasification does indeed have hazardous air, liquid and solid by-products.

### **Feedstocks and higher uses**

Even if technologies like gasification, pyrolysis, and plasma arc could be made safe, they could never be sensible. As this draft report points out, nearly 80 percent of materials disposed in landfills is organic, including paper, wood, green waste, and food waste. Instead of promoting

more and more “back end” technologies, the CIWMB should be seeking innovative strategies for capturing those organic materials and returning them to production cycles.

It is important for the CIWMB to remind legislators in this report of the resource conservation benefits of capturing and using this significant amount of organic matter in place of virgin materials. We cannot merely focus on landfill diversion, but on the state’s obligation to offset exploitation of virgin materials. Indeed, this conservation is one of the primary purposes of recycling.

As the draft report states on page 28, “conversion technologies” would target paper and cardboard, which is not only an important recycling market but also has the potential for preventing the logging of a substantial amount of trees to create new paper. Considering that California is only recovering 30 percent of this resource stream, the CIWMB should be consistent in advocating for more effective recovery of waste paper for recycling.

### **Market Impacts**

The draft report states that if diversion credit were granted and traditional programs were implemented, there could be a negative impact on recycling and composting. In the following paragraph, the report asserts that “conversion technologies will have a positive impact on recycling” of glass, metals and some plastics. But considering the potential feedstocks, there can be no question that because “conversion technologies” are most interested in paper and cardboard, potential paper recycling would be impacted by these technologies. The draft report’s executive summary and conclusion should highlight the potential for increased used paper collection.

### **Executive Summary Conclusion Compares “CT” to Landfilling and Transformation Only**

The asserted conclusion that “conversion technologies... offers better solutions to landfilling and transformation” does not consider the pressing need for waste prevention strategies or increased paper and cardboard collection. It is false to compare these technologies to landfilling and existing incinerators alone. As the draft report’s introduction points out, per capita waste generation continues to grow. Instead of applying a “band-aid” treatment to the problem of waste generation, the final report should urge the legislature to address the sources of the waste problem directly.

### **Problems at Commercial Gasification and Pyrolysis Facilities**

Problems appear to plague the largest of facilities cited in the draft report.

In November 2004, the largest operation listed in Table 2 on draft report page 25 (Thermoselect located in Karlsruhe, Germany) was closed due to technical and financial difficulties.

The second largest operation listed in the same table (SVZ Schwarze Pumpe, located in Spreetal, Germany) appears to be in financial trouble. According to the company’s website, SVZ Schwarze Pumpe been in financial insolvency proceedings since April 26, 2004 and is seeking investors.<sup>1</sup>

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<sup>1</sup> Source: <http://www.svz-gmbh.de/GB/Seiten/rahmnew.html>

And as mentioned in the draft report, Brightstar Environmental, which expected to process approximately 270 tpd, was forced to close due to insurmountable technical and financial problems.

### **Federal Approach to Gasification and Pyrolysis**

On page 34, the draft report states “some commentators have stated that federal law includes gasification and pyrolysis as part of the definition of incineration.” I would like to clarify that I and others have made this statement with regard to *medical waste* gasification and pyrolysis, because this is the only statement from the USEPA about gasification or pyrolysis of wastes (as opposed to fossil fuels). This gives an indication of how the federal government would likely see gasification and pyrolysis of municipal waste.

Furthermore, I would like to remind the CIWMB once again that the European Union’s Directive on Incineration of Waste (2000) defines gasification, pyrolysis and plasma treatment of municipal solid waste as incineration:

*'[I]ncineration plant' means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated. This includes the incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated.*

As the draft report mentions, the European Union has had some experience with these technologies and does not shy away from classifying them as incineration.

### **Dioxin and Other Releases to Air, Land, and Water**

It is important for the final report to note that dioxin pollution limits are dictated by what agencies and industries believe is possible, *not* by what is considered to be safe or of no risk to public health. In a report on waste management, the United Kingdom Parliamentary Select Committee on Environment, Transport and Regional Affairs acknowledged this when it stated:

*It is also generally accepted that emissions standards are still based on what can be measured and what is technologically achievable, rather than what is safe.<sup>2</sup>*

Not only is this disconcerting, but a recent study states that there is no threshold for dioxin impact on humans.<sup>3</sup> That means that even the tiniest exposure to this poison can have an impact. Thus, any new sources of dioxin exposure to the public increase the existing health threat of dioxin.

### **Separating PVC from Waste Stream to Prevent Dioxin Formation**

The draft report notes that PVC and other materials containing chlorine would be precursors to dioxin formation in gasification, pyrolysis and other thermal treatment technologies. The draft report suggests separating PVC from the waste stream in order to reduce dioxin formation.

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<sup>2</sup>*Fifth Report*, House of Commons Environment, Transport and Regional Affairs, 2001.

<http://www.parliament.the-stationery-office.co.uk/pa/cm200001/cmselect/cmenvtra/36/3610.htm>

<sup>3</sup> No evidence of dioxin cancer threshold. *Environmental Health Perspectives*, 2003;111(9):1145-1147.)

This assertion is misleading because PVC is very difficult to remove from the waste stream. As a new report called “Bad News Comes in 3s” shows, it is not only difficult to separate PVC from other plastics, but also from nylon carpet facing, wire, electronics, even scrap wood from construction and demolition, where PVC from siding, pipes, flooring, and other materials contaminates the wood. An estimated 26 percent of the plastic used in electrical and electronic equipment is PVC. PVC is found in endless durable and non-durable goods: blister packaging, film wrap, bottles, beach balls, toys, binders, shower curtains, and other products that would end up in the feedstock for gasification, pyrolysis, plasma arc, or other thermal “conversion technology”. It is estimated that California sends 328,260 tons of PVC to its landfills annually.<sup>4</sup>

It is not possible for PVC to be sufficiently removed from the municipal waste stream, and it would be a source of dioxin in gasification, pyrolysis, plasma arc, and other incinerator-like technologies.

### **Stockholm Convention and Dioxin/Furans**

The draft report mentions that the draft Stockholm Convention Guidelines for best available techniques (BAT) for achieving specific goals of the Convention and references pollution control technologies listed in these Guidelines that may be applicable to gasification, pyrolysis, plasma arc and other incinerators. Yet more important is the prevention of pollutants in the first place.

The draft report should not reference the Guideline’s discussion of pollution control technologies without mentioning the overarching principle of prevention, which is found repeatedly throughout the draft Guidelines. For example, in relation to municipal solid waste, the draft Guidelines state:

*When considering proposals to construct new waste incinerators, priority consideration should be given to alternatives such as activities to minimize the generation of waste, including resource recovery, reuse, recycling, waste separation and promoting products that generate less waste. Priority consideration should also be given to approaches that prevent the formation and release of persistent organic pollutants.*<sup>5</sup>

### **Emissions Data from Existing Facilities**

The tables of emissions data on page 41 and elsewhere do not clarify under what conditions tests were administered. Dioxin tests are usually only conducted for a few hours, instead of continually, and thus tend to not capture dioxin production during start-up, shut down, or “upset” conditions (conditions in which the facility is operating outside specified parameters).<sup>6</sup>

It is also not clear if these tests were administered under optimum or test burn conditions, when special measures outside the normal scope of operations can minimize dioxin production during the test period. In the past, incinerator operators have been caught reserving “clean” waste that will minimize dioxin production specifically for dioxin testing periods.<sup>7</sup> This would result in data

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<sup>4</sup> PVC: Bad News Comes in 3s. The Poison Plastic, Health Hazards, and the Looming Waste Crisis, Center for Health, Environment & Justice and Environmental Health Strategy Center, Dec. 2004. [www.chej.org](http://www.chej.org)

<sup>5</sup> Guidelines on BAT and Guidance on BEP, Draft Version – December 2004. Stockholm Convention Secretariat. [http://www.pops.int/documents/batbep\\_advance/default.htm](http://www.pops.int/documents/batbep_advance/default.htm)

<sup>6</sup> Alcock et al., “An Updated PCDD/F Atmospheric Emission Inventory Based on Recent Emissions Measurement Programme,” *Organohalogen Compounds*, vol. 36, pp. 105-108, 1998.

<sup>7</sup> Tangri, Neil, *Waste Incineration*, Global Alliance for Incinerator Alternatives, pp. 19-20, 2003.

that does not accurately reflect normal emissions. Without knowing what under what conditions the cited tests were held, the results cannot be assumed to be accurately representative.

### **Diversion Credit**

I applaud the draft report for not recommending to the legislature that thermochemical technologies be considered for diversion credit, and for concluding that anaerobic digestion is the cleanest and least polluting technology when compared to other “conversion technologies.”

### **Reexamining the Conversion Technology Umbrella**

All of these technologies simply cannot be approached under the misleading umbrella of “conversion technology.” I urge the CIWMB in its report to the legislature to recommend that the term “conversion technology” should be discarded and each technology should be dealt with separately, or with similar technologies that have similar processes.

Please contact me at 510-883-9490 ext 2# or [mwilson@no-burn.org](mailto:mwilson@no-burn.org) for any clarifications.

Sincerely,

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